

What is said of Colours made by Prisms may be easily applied to Colours made by the Glasses of Telescopes, or Microscopes, or by the humours of the Eye. For if the Object-glass of a Telescope be thicker on one side than on the other, or if one half of the Glass, or one half of the Pupil of the Eye be covered with any opaque substance: the Object-glass, or that part of it or of the Eye which is not covered, may be considered as a Wedge with crooked sides, and every Wedge of Glass, or other pellucid substance, has the effect of a Prism in refracting the Light which passes through it.

How the Colours in the 9th and 10th Experiments of the first Part arise from the different reflexibility of Light, is evident by what was there said. But it is observable in the 9th Experiment, that whilst the Sun's direct Light is yellow, the excess of the blue-making rays in the reflected Beam of Light MN, suffices only to bring that yellow to a pale white inclining to blue, and not to tinge it with a manifestly blue Colour. To obtain therefore a better blue, I used instead of the yellow Light of the Sun the white Light of the Clouds, by varying a little the Experiment as follows.

EXPER. XVI.

Fig. 13. Let HFG represent a Prism in the open Air, and S the Eye of the Spectator, viewing the Clouds by their Light coming into the Prism at the plane side FIGK, and reflected in it by its base HEIG, and thence going out through its plain side HEFK to the Eye. And when the Prism and Eye are conveniently placed, so that the Angles of incidence and reflexion at the base may

may be about 40 degrees, the Spectator will see a Bow MN of a blue Colour, running from one end of the base to the other, with the concave side towards him, and the part of the base IMNG beyond this Bow will be brighter than the other part EMNH on the other side of it. This blue Colour MN being made by nothing else than by reflexion of a specular superficies, seems so odd a Phenomenon, and so unaccountable for by the vulgar Hypothesis of Philosophers, that I could not but think it deserved to be taken notice of. Now for understanding the reason of it, suppose the plane ABC to cut the plane sides and base of the Prism perpendicularly. From the Eye to the line BC, wherein that plane cuts the base, draw the lines Sp and St, in the Angles Spc 50 degr. $\frac{1}{2}$, and Stc 49 degr. $\frac{1}{28}$, and the point p will be the limit beyond which none of the most refrangible rays can pass through the base of the Prism, and be refracted, whose incidence is such that they may be reflected to the Eye; and the point t will be the like limit for the least refrangible rays, that is, beyond which none of them can pass through the base, whose incidence is such that by reflexion they may come to the Eye. And the point r taken in the middle way between p and t, will be the like limit for the meanly refrangible rays. And therefore all the refrangible rays which fall upon the base beyond t, that is, between t and B, and can come from thence to the Eye will be reflected thither: But on this side t, that is, between t and c, many of these rays will be transmitted through the base. And all the most refrangible rays which fall upon the base beyond p, that is, between p and B, and can by reflexion come from thence to the Eye, will be reflected thither,